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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/493,063	01/28/2000	Eiji Morifuji	PM 266202	1728

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EXAMINER

LEE, EUGENE

ART UNIT	PAPER NUMBER
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2815

DATE MAILED: 12/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/493,063

Applicant(s)

MORIFUJI, EIJI

Examiner

Eugene Lee

Art Unit

2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-11, 13 and 16-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-11, 13 and 16-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 14 September 2001 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1 thru 4, 6 thru 11, 13, and 16 thru 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1 and 7, the applicant has not sufficiently defined the metes and bounds of the word "just" in the phrase "just under the signal input pad". It is not known how close a structure can be before it is considered "just" under the signal input pad. Therefore, it would be unclear to one of ordinary skill in the art at the time of invention to ascertain what comprehensive range the word "just" encompasses in the claims.

In claims 18 and 19, the applicant has not sufficiently defined the metes and bounds of the word "within an area" in the phrase "within an area of the high concentration impurity diffused region". It is not known what range of location a structure can be before it is considered "within an area" of the high concentration impurity diffused region. Therefore, it would be unclear to one of ordinary skill in the art at the time of invention to ascertain what comprehensive range the word "within an area" encompasses in the claims.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2815

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. Insofar as definite, claims 1 thru 4, 7 thru 11, and 16 thru 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Ma et al. '753. Ma shows (see, for example, FIG. 8) a semiconductor device comprising a substrate 11, MOSFET 115, metallization regions (signal input pad) 133, gate 55, heavily doped region (high concentration impurity diffused region) 89, metallization regions (interconnection) 135, and titanium silicide region (low resistance layer) 99.
- a. Regarding claims 2 and 8, a field oxide layer (device isolation film) 38 envelopes the heavily doped region.
- b. Regarding claim 4 and 11, see column 8, lines 37-47.
- c. Regarding claims 7 and 8, the metallization regions 135 are electrically coupled to polysilicon plates (polysilicon layer) 44, 56 which lie above a field oxide layer 38. Also, a titanium silicide region 107 resides on top of the polysilicon plates.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Insofar as definite, claims 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al. '753 as applied to claims 1 thru 4, 7 thru 11, and 16-19 above, and further in view of Battersby et al. '065. Ma does not disclose a plurality of MOSFETs disposed in a comb-like shape on the semiconductor substrate forming an amplifier stage. However, Battersby discloses (see, for example, FIG. 2) MOSFETs formed in a comb-shaped structure as an amplifier element. Battersby teaches that this comb-shaped structure reduces leakage currents and parasitic capacitances in amplifier elements. See, for example, abstract. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use a comb-shaped structure so that leakage current and parasitic capacitances are reduced in amplifier elements.

Response to Arguments

7. Applicant's arguments with respect to claims 1-4, 6-11, 13, and 16-19 have been considered but are moot in view of the new ground(s) of rejection.

Regarding applicant's argument that elements 135, 89 and 99 are disclosed as portion of the DPC 57, not IGFET 115, this is considered not persuasive since the limitations do not state that the elements (interconnection, high concentration impurity diffusion region, low resistance layer) 135, 89 and 99 must be parts of a IGFET. The claims only state these elements must be part of a semiconductor device which Ma clearly discloses.

Regarding the new limitation in claim 7, element 99 and element 107 are low resistance layers and therefore constitute "a low resistance layer provided on the upper surface of the high concentration impurity diffused region and said polysilicon layer."

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

INFORMATION ON HOW TO CONTACT THE USPTO

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eugene Lee whose telephone number is 703-305-5695. The examiner can normally be reached on M-F 8-5.

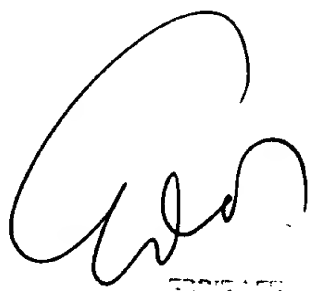
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on 703-308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Application/Control Number: 09/493,063
Art Unit: 2815

Page 6

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Eugene Lee
December 14, 2002



ASSISTANT
SUPERVISOR, PATENT & TRADE
TECHNOLOGY CENTER